



SEQUENCE LISTING

<110> BOUWSTRA, Jan Bastiaan
YUZO, Toda

<120> Use of recombinant gelatin-like proteins as plasma expanders and compositions suitable for plasma substitution

<130> BOUWSTRA-3

<140> US 10/658,989
<141> 2003-09-10

<150> EP 02078745.3
<151> 2002-09-11

<160> 4

<170> PatentIn version 3.1

<210> 1
<211> 209
<212> PRT
<213> Artificial sequence

<220>
<223> Hu-1

<400> 1

Gly Pro Pro Gly Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly
1 5 10 15

Glu Arg Gly Gly Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val
20 25 30

Ala Gly Pro Lys Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala
35 40 45

Gly Pro Lys Gly Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly
50 55 60

Leu Pro Gly Ala Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro
65 70 75 80

Asp Gly Lys Thr Gly Pro Pro Gly Pro Ala Gly Gln Asp Gly Arg Pro
85 90 95

Gly Pro Pro Gly Pro Pro Gly Ala Arg Gly Gln Ala Gly Val Met Gly
100 105 110

Phe Pro Gly Pro Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu
115 120 125

Arg Gly Val Pro Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp
130 135 140

Gly Glu Ala Gly Ala Gln Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly
145 150 155 160

Glu Arg Gly Glu Gln Gly Pro Ala Gly Ser Pro Gly Phe Gln Gly Leu
165 170 175

Pro Gly Pro Ala Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Gln
180 185 190

Gly Val Pro Gly Asp Leu Gly Ala Pro Gly Pro Ser Gly Pro Ala Gly
195 200 205

Gly

<210> 2
<211> 617
<212> PRT
<213> Artificial sequence

<220>
<223> Hu-3

<400> 2

Gly Pro Pro Gly Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly
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Glu Arg Gly Gly Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val
20 25 30

Ala Gly Pro Lys Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala
35 40 45

Gly Pro Lys Gly Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly
50 55 60

Leu Pro Gly Ala Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro
65 70 75 80

Asp Gly Lys Thr Gly Pro Pro Gly Pro Ala Gly Gln Asp Gly Arg Pro
85 90 95

Gly Pro Pro Gly Pro Pro Gly Ala Arg Gly Gln Ala Gly Val Met Gly
100 105 110

Phe Pro Gly Pro Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu
115 120 125

Arg Gly Val Pro Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp
130 135 140

Gly Glu Ala Gly Ala Gln Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly
145 150 155 160

Glu Arg Gly Glu Gln Gly Pro Ala Gly Ser Pro Gly Phe Gln Gly Leu
165 170 175

Pro Gly Pro Ala Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Gln
180 185 190

Gly Val Pro Gly Asp Leu Gly Ala Pro Gly Pro Ser Gly Pro Ala Gly
195 200 205

Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly Glu Arg Gly Gly
210 215 220

Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val Ala Gly Pro Lys
225 230 235 240

Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala Gly Pro Lys Gly
245 250 255

Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly Leu Pro Gly Ala
260 265 270

Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro Asp Gly Lys Thr
275 280 285

Gly Pro Pro Gly Pro Ala Gly Gln Asp Gly Arg Pro Gly Pro Pro Gly
290 295 300

Pro Pro Gly Ala Arg Gly Gln Ala Gly Val Met Gly Phe Pro Gly Pro
305 310 315 320

Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu Arg Gly Val Pro
325 330 335

Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp Gly Glu Ala Gly
340 345 350

Ala Gln Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly Glu Arg Gly Glu
355 360 365

Gln Gly Pro Ala Gly Ser Pro Gly Phe Gln Gly Leu Pro Gly Pro Ala
370 375 380

Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Gln Gly Val Pro Gly
385 390 395 400

Asp Leu Gly Ala Pro Gly Pro Ser Gly Pro Ala Gly Glu Pro Gly Pro
405 410 415

Thr Gly Leu Pro Gly Pro Pro Gly Glu Arg Gly Gly Pro Gly Ser Arg
420 425 430

Gly Phe Pro Gly Ala Asp Gly Val Ala Gly Pro Lys Gly Pro Ala Gly
435 440 445

Glu Arg Gly Ser Pro Gly Pro Ala Gly Pro Lys Gly Ser Pro Gly Glu
450 455 460

Ala Gly Arg Pro Gly Glu Ala Gly Leu Pro Gly Ala Lys Gly Leu Thr
465 470 475 480

Gly Ser Pro Gly Ser Pro Gly Pro Asp Gly Lys Thr Gly Pro Pro Gly
485 490 495

Pro Ala Gly Gln Asp Gly Arg Pro Gly Pro Pro Gly Pro Pro Gly Ala
500 505 510

Arg Gly Gln Ala Gly Val Met Gly Phe Pro Gly Pro Lys Gly Ala Ala
515 520 525

Gly Glu Pro Gly Lys Ala Gly Glu Arg Gly Val Pro Gly Pro Pro Gly
530 535 540

Ala Val Gly Pro Ala Gly Lys Asp Gly Glu Ala Gly Ala Gln Gly Pro
545 550 555 560

Pro Gly Pro Ala Gly Pro Ala Gly Glu Arg Gly Glu Gln Gly Pro Ala
565 570 575

Gly Ser Pro Gly Phe Gln Gly Leu Pro Gly Pro Ala Gly Pro Pro Gly
580 585 590

Glu Ala Gly Lys Pro Gly Glu Gln Gly Val Pro Gly Asp Leu Gly Ala
595 600 605

Pro Gly Pro Ser Gly Pro Ala Gly Gly
610 615

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<211> 821
<212> PRT
<213> Artificial sequence

<220>
<223> Hu-4

<400> 3

Gly Pro Pro Gly Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly
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Glu Arg Gly Gly Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val
20 25 30

Ala Gly Pro Lys Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala
35 40 45

Gly Pro Lys Gly Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly
50 55 60

Leu Pro Gly Ala Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro
65 70 75 80

Asp Gly Lys Thr Gly Pro Pro Gly Pro Ala Gly Gln Asp Gly Arg Pro
85 90 95

Gly Pro Pro Gly Pro Pro Gly Ala Arg Gly Gln Ala Gly Val Met Gly
100 105 110

Phe Pro Gly Pro Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu
115 120 125

Arg Gly Val Pro Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp
130 135 140

Gly Glu Ala Gly Ala Gln Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly
145 150 155 160

Glu Arg Gly Glu Gln Gly Pro Ala Gly Ser Pro Gly Phe Gln Gly Leu
165 170 175

Pro Gly Pro Ala Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Gln
180 185 190

Gly Val Pro Gly Asp Leu Gly Ala Pro Gly Pro Ser Gly Pro Ala Gly
195 200 205

Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly Glu Arg Gly Gly
210 215 220

Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val Ala Gly Pro Lys
225 230 235 240

Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala Gly Pro Lys Gly
245 250 255

Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly Leu Pro Gly Ala
260 265 270

Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro Asp Gly Lys Thr
275 280 285

Gly Pro Pro Gly Pro Ala Gly Gln Asp Gly Arg Pro Gly Pro Pro Gly
290 295 300

Pro Pro Gly Ala Arg Gly Gln Ala Gly Val Met Gly Phe Pro Gly Pro
305 310 315 320

Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu Arg Gly Val Pro
325 330 335

Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp Gly Glu Ala Gly
340 345 350

Ala Gln Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly Glu Arg Gly Glu
355 360 365

Gln Gly Pro Ala Gly Ser Pro Gly Phe Gln Gly Leu Pro Gly Pro Ala
370 375 380

Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Gln Gly Val Pro Gly
385 390 395 400

Asp Leu Gly Ala Pro Gly Pro Ser Gly Pro Ala Gly Glu Pro Gly Pro
405 410 415

Thr Gly Leu Pro Gly Pro Pro Gly Glu Arg Gly Gly Pro Gly Ser Arg
420 425 430

Gly Phe Pro Gly Ala Asp Gly Val Ala Gly Pro Lys Gly Pro Ala Gly
435 440 445

Glu Arg Gly Ser Pro Gly Pro Ala Gly Pro Lys Gly Ser Pro Gly Glu
450 455 460

Ala Gly Arg Pro Gly Glu Ala Gly Leu Pro Gly Ala Lys Gly Leu Thr
465 470 475 480

Gly Ser Pro Gly Ser Pro Gly Pro Asp Gly Lys Thr Gly Pro Pro Gly
485 490 495

Pro Ala Gly Gln Asp Gly Arg Pro Gly Pro Pro Gly Pro Pro Gly Ala
500 505 510

Arg Gly Gln Ala Gly Val Met Gly Phe Pro Gly Pro Lys Gly Ala Ala
515 520 525

Gly Glu Pro Gly Lys Ala Gly Glu Arg Gly Val Pro Gly Pro Pro Gly
530 535 540

Ala Val Gly Pro Ala Gly Lys Asp Gly Glu Ala Gly Ala Gln Gly Pro

545	550	555	560
Pro Gly Pro Ala Gly Pro Ala Gly Glu Arg Gly Glu Gln Gly Pro Ala			
565	570		575
Gly Ser Pro Gly Phe Gln Gly Leu Pro Gly Pro Ala Gly Pro Pro Gly			
580	585		590
Glu Ala Gly Lys Pro Gly Glu Gln Gly Val Pro Gly Asp Leu Gly Ala			
595	600		605
Pro Gly Pro Ser Gly Pro Ala Gly Glu Pro Gly Pro Thr Gly Leu Pro			
610	615		620
Gly Pro Pro Gly Glu Arg Gly Gly Pro Gly Ser Arg Gly Phe Pro Gly			
625	630		635
640			
Ala Asp Gly Val Ala Gly Pro Lys Gly Pro Ala Gly Glu Arg Gly Ser			
645	650		655
Pro Gly Pro Ala Gly Pro Lys Gly Ser Pro Gly Glu Ala Gly Arg Pro			
660	665		670
Gly Glu Ala Gly Leu Pro Gly Ala Lys Gly Leu Thr Gly Ser Pro Gly			
675	680		685
Ser Pro Gly Pro Asp Gly Lys Thr Gly Pro Pro Gly Pro Ala Gly Gln			
690	695		700
Asp Gly Arg Pro Gly Pro Pro Gly Pro Pro Gly Ala Arg Gly Gln Ala			
705	710		715
720			
Gly Val Met Gly Phe Pro Gly Pro Lys Gly Ala Ala Gly Glu Pro Gly			
725	730		735
Lys Ala Gly Glu Arg Gly Val Pro Gly Pro Pro Gly Ala Val Gly Pro			
740	745		750
Ala Gly Lys Asp Gly Glu Ala Gly Ala Gln Gly Pro Pro Gly Pro Ala			
755	760		765
Gly Pro Ala Gly Glu Arg Gly Glu Gln Gly Pro Ala Gly Ser Pro Gly			
770	775		780

Phe Gln Gly Leu Pro Gly Pro Ala Gly Pro Pro Gly Glu Ala Gly Lys
785 790 795 800

Pro Gly Glu Gln Gly Val Pro Gly Asp Leu Gly Ala Pro Gly Pro Ser
805 810 815

Gly Pro Ala Gly Gly
820

<210> 4
<211> 544
<212> PRT
<213> Artificial sequence

<220>
<223> Hu-deam

<400> 4

Gly Ser Glu Gly Pro Glu Gly Val Arg Gly Glu Pro Gly Pro Pro Gly
1 5 10 15

Pro Ala Gly Ala Ala Gly Pro Ala Gly Asp Pro Gly Ala Asp Gly Glu
20 25 30

Pro Gly Ala Lys Gly Ala Asp Gly Ala Pro Gly Ile Ala Gly Ala Pro
35 40 45

Gly Phe Pro Gly Ala Arg Gly Pro Ser Gly Pro Glu Gly Pro Gly Gly
50 55 60

Pro Pro Gly Pro Lys Gly Asp Ser Gly Glu Pro Gly Ala Pro Gly Ser
65 70 75 80

Lys Gly Asp Thr Gly Ala Lys Gly Glu Pro Gly Pro Val Gly Val Glu
85 90 95

Gly Pro Pro Gly Pro Ala Gly Glu Glu Gly Lys Pro Gly Ala Arg Gly
100 105 110

Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly Glu Arg Gly Gly
115 120 125

Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val Ala Gly Pro Lys

130

135

140

Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala Gly Pro Lys Gly
145 150 155 160

Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly Leu Pro Gly Ala
165 170 175

Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro Asp Gly Lys Thr
180 185 190

Gly Pro Pro Gly Pro Ala Gly Glu Asp Gly Arg Pro Gly Pro Pro Gly
195 200 205

Pro Pro Gly Ala Arg Gly Glu Ala Gly Val Met Gly Phe Pro Gly Pro
210 215 220

Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu Arg Gly Val Pro
225 230 235 240

Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp Gly Glu Ala Gly
245 250 255

Ala Glu Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly Glu Arg Gly Glu
260 265 270

Glu Gly Pro Ala Gly Ser Pro Gly Phe Glu Gly Leu Pro Gly Pro Ala
275 280 285

Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Gly Val Pro Gly
290 295 300

Asp Leu Gly Ala Pro Gly Pro Ser Gly Ala Arg Gly Glu Pro Gly Phe
305 310 315 320

Pro Gly Glu Arg Gly Val Glu Gly Pro Pro Gly Pro Ala Gly Pro Pro
325 330 335

Gly Ala Asp Gly Ala Pro Gly Asp Asp Gly Ala Lys Gly Asp Ala Gly
340 345 350

Ala Pro Gly Ala Pro Gly Ser Glu Gly Ala Pro Gly Leu Glu Gly Met
355 360 365

Pro Gly Glu Arg Gly Ala Ala Gly Leu Pro Gly Pro Lys Gly Asp Arg
370 375 380

Gly Asp Ala Gly Pro Lys Gly Ala Asp Gly Ser Pro Gly Lys Asp Gly
385 390 395 400

Val Arg Gly Leu Thr Gly Pro Ile Gly Pro Pro Gly Pro Ala Gly Ala
405 410 415

Pro Gly Asp Lys Gly Glu Ser Gly Pro Ser Gly Pro Ala Gly Pro Thr
420 425 430

Gly Ala Arg Gly Ala Pro Gly Asp Arg Gly Glu Pro Gly Pro Pro Gly
435 440 445

Pro Ala Gly Phe Ala Gly Pro Pro Gly Ala Asp Gly Glu Pro Gly Ala
450 455 460

Lys Gly Glu Pro Gly Asp Ala Gly Ala Lys Gly Asp Ala Gly Pro Pro
465 470 475 480

Gly Pro Ala Gly Pro Ala Gly Pro Pro Gly Pro Ile Gly Asp Val Gly
485 490 495

Ala Pro Gly Ala Lys Gly Ala Arg Gly Ser Ala Gly Pro Pro Gly Ala
500 505 510

Thr Gly Phe Pro Gly Ala Ala Gly Arg Val Gly Pro Pro Gly Pro Ser
515 520 525

Gly Asp Ala Gly Pro Pro Gly Pro Pro Gly Pro Ala Gly Lys Glu Gly
530 535 540